

## GILA RIVER BASIN

## 09471000 SAN PEDRO RIVER AT CHARLESTON, AZ

**LOCATION**--Lat 31°37'33", long 110°10'26", in NE<sub>1/4</sub>NE<sub>1/4</sub> sec. 11, T.21 S., R.21 E., Cochise County, Hydrologic Unit 15050202, in Spanish land grant of San Juan de las Boquillas y Nogales, at downstream side of pier near center of highway bridge, 0.3 mi south of Charleston, 1.5 mi upstream from Charleston damsite, and 9 mi upstream from Babocomari River.

**DRAINAGE AREA**--~1,234 mi<sup>2</sup>, of which 696 mi<sup>2</sup> is in Mexico.

## WATER-DISCHARGE RECORDS

**PERIOD OF RECORD**--Jan. and Feb. 1904 (gage heights only); Mar. 1904 to Aug. 1906; Nov. 1910 to Dec. 1911 (gage heights only); Sept. 1912 to current year. Monthly discharge only Oct. 1926 to May 1928 and Dec. 1933 to Apr. 1935, published in WSP 1313. Published as "near Lewis Springs" 1910-11, and as "near Fairbank" 1911-26.

**REVISED RECORDS**--WSP 1119: 1939(M); WSP 1213: 1914, 1916(M), 1918(M), 1919, 1920(M), 1922-23(M); WDR AZ-90-1: Drainage area.

**GAGE**--Water-stage recorder. Datum of gage is 3,954.01 ft above sea level. Prior to Dec. 1, 1942, nonrecording gage or water-stage recorder at various sites within 6.5 mi downstream at different datums.

**REMARKS**--Records good except for discharges higher than 350 ft<sup>3</sup>/s, which are fair and estimated daily discharges, which are poor. Diversions above station, mostly by pumping from ground water, for irrigation of 3,200 acres in 1978, excluding an unknown amount in Mexico. Record shows flow available at Charleston damsite.

**EXTREMES FOR PERIOD OF RECORD**--Maximum discharge, about 98,000 ft<sup>3</sup>/s Sept. 28, 1926, gage height, 21.9 ft, site and datum then in use, by slope-area measurement of peak flow; minimum daily discharge since 1928, 0.05 ft<sup>3</sup>/s June 14-16, 1994, gage height, 2.02 ft.

**EXTREMES FOR CURRENT YEAR**--Peak discharges greater than base discharge of 3,000 ft<sup>3</sup>/s and (or) maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Aug. 1.....	0245	4,260	8.00
Aug. 12.....	2345	*4,280	*8.01
Aug. 14.....	1130	3,430	7.50

Minimum daily discharge, 0.00 ft<sup>3</sup>/s, July 9-16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	3.8	6.0	7.4	11	12	10	5.6	3.1	e0.19	1510	16
2	6.1	4.1	6.1	7.8	11	12	9.9	5.6	2.9	e0.14	125	15
3	5.7	4.2	6.2	8.0	11	12	9.5	5.6	e2.9	e0.08	263	15
4	5.3	4.2	6.3	8.0	11	12	9.2	5.5	e2.6	e0.03	586	13
5	5.0	4.3	6.4	7.7	11	12	9.1	5.4	e2.4	e0.02	205	71
6	4.8	4.5	6.4	7.8	12	13	9.2	5.3	2.2	0.01	71	42
7	4.7	4.3	6.3	7.8	32	13	8.8	5.3	1.9	0.01	348	31
8	4.5	4.6	6.3	7.8	20	13	8.2	5.3	1.7	0.01	353	228
9	4.4	4.6	6.3	7.8	15	12	7.8	5.1	1.6	0.00	222	646
10	4.4	4.7	6.3	8.0	14	12	7.5	4.8	1.6	0.00	428	112
11	4.3	4.5	6.3	7.8	13	12	7.5	4.7	1.5	0.00	309	252
12	4.4	4.6	6.6	7.8	13	12	7.7	4.7	1.4	0.00	776	49
13	4.5	4.9	6.2	7.8	83	12	7.5	4.6	1.4	0.00	1430	33
14	4.3	5.4	6.2	7.9	56	12	7.2	4.1	1.3	0.00	1440	27
15	4.3	5.5	6.3	7.8	29	12	7.1	3.9	1.1	e0.00	1480	23
16	4.3	5.7	6.3	7.7	20	12	7.3	3.7	0.98	e0.00	131	21
17	4.4	6.0	6.2	7.8	16	12	7.1	3.5	0.90	e11	169	19
18	4.6	5.9	6.4	7.8	15	12	6.9	3.5	0.86	e18	453	17
19	4.7	5.8	6.5	7.8	14	13	6.6	3.3	0.88	e1.5	234	16
20	4.4	5.9	6.7	7.8	13	12	6.5	3.1	0.95	1.3	133	16
21	4.5	6.4	6.7	8.4	13	12	6.4	2.6	0.85	1.0	51	14
22	4.6	6.6	6.8	94	13	12	6.3	e2.5	0.69	0.32	306	14
23	4.5	6.8	6.8	23	12	12	6.2	e2.5	0.67	0.40	174	13
24	4.4	6.7	6.9	16	12	12	6.3	e2.8	0.69	65	843	12
25	4.4	6.6	6.9	14	12	12	6.2	4.1	0.69	111	136	11
26	4.6	6.0	7.1	14	12	11	6.1	4.1	0.55	13	73	10
27	4.5	6.1	7.3	13	12	11	5.9	3.5	0.40	331	56	9.7
28	3.7	6.2	e7.4	12	12	11	5.8	4.2	0.45	89	36	9.3
29	3.8	6.1	e7.5	12	---	11	5.8	4.0	0.44	11	26	8.9
30	3.9	5.9	7.5	11	---	10	5.8	3.4	0.31	360	20	8.4
31	4.0	---	7.4	11	---	9.9	---	3.3	---	809	18	---
TOTAL	142.5	160.9	204.6	384.5	518	367.9	221.4	129.6	39.91	1823.01	12405	1772.3
MEAN	4.60	5.36	6.60	12.4	18.5	11.9	7.38	4.18	1.33	58.8	400	59.1
MAX	6.5	6.8	7.5	94	83	13	10	5.6	3.1	809	1510	646
MIN	3.7	3.8	6.0	7.4	11	9.9	5.8	2.5	0.31	0.00	18	8.4
MED	4.5	5.6	6.4	7.8	13	12	7.2	4.1	1.1	0.19	222	16
AC-FT	283	319	406	763	1030	730	439	257	79	3620	24610	3520
CFSM	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.05	0.32	0.05

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2005, BY WATER YEAR (WY)

(WY)	1978	2001	1915	1979	1915	1915	1905	1917	1925	1921	1954	1926
MIN	2.66	4.00	5.15	5.81	7.18	8.04	3.03	2.42	1.19	0.55	9.97	3.22

## SUMMARY STATISTICS FOR 2004 CALENDAR YEAR FOR 2005 WATER YEAR

ANNUAL TOTAL	5543.73	18169.62		WATER YEARS 1904 - 2005
ANNUAL MEAN	15.1	49.8	55.2	
HIGHEST ANNUAL MEAN			286	1904
LOWEST ANNUAL MEAN			9.73	2003
HIGHEST DAILY MEAN	1280	Sep 20	1510	Aug 1
LOWEST DAILY MEAN	0.29	Jul 7	0.00	Jul 9
ANNUAL SEVEN-DAY MINIMUM	0.40	Jul 4	0.00	Jul 9
ANNUAL RUNOFF (AC-FT)	11000		36040	40000
ANNUAL RUNOFF (CFSM)	0.012		0.040	0.045
10 PERCENT EXCEEDS	9.8		71	68
50 PERCENT EXCEEDS	6.3		7.1	13
90 PERCENT EXCEEDS	1.5		1.3	3.5

e Estimated

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## **WATER-QUALITY RECORDS**

**PERIOD OF RECORD.**--July 1963 to Sept. 1975, Dec. 1986 to Sept. 1993, Feb. 1996 to May 2005 (discontinued).

**PERIOD OF DAILY RECORD.--**

**SPECIFIC CONDUCTANCE:** Oct. 1964 to Sept. 1975, Oct. 1996 to Sept. 1998.

**WATER TEMPERATURE:** July 1963 to Sept. 1975, Oct. 1996 to Sept. 1998.

**SUSPENDED-SEDIMENT DISCHARGE:** July 1963 to Sept. 1975.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Remark codes used in this table:

< -- Less than.

E -- Estimated.

Value qualifier codes used in this table:

c -- See laboratory comment  
b Count = outside comment

k -- Counts outside acceptable range  
n -- Below the LPI and above the UPI

n -- Below the LRL and above the LT-MDL

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WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Water-quality measurements in the following table were made as part of the ADEQ Fixed-Station Network Program. The following analyses are quality-assurance samples processed during the 2005 sampling period and are defined in the introductory text section titled "Water-Quality Control Data".

Date	Time	Sample type	pH, water,	Specif. unfiltrd field, std units	conduct- tance, wat uS/cm (00400)	Temper- ature, air, deg C (00095)	Temper- ature, water, deg C (00020)	Ammonia + org-N, mg/L (00010)	Ammonia water, mg/L (00625)	Nitrate + water, mg/L (00608)	Phos- phorus, water, mg/L (00631)	Beryll- ium, water, mg/L (00665)	Cadmium water, ug/L (01010)	Copper, water, ug/L (01025)
MAY 12...	1200	2	5.3	1	28.0	24.2	<.10	<.04	<.06	<.02	<.06	<.04	<.4	

Date	Lead, water, ug/L (01049)	Mercury water, ug/L (71890)	Zinc, water, ug/L (01090)
MAY 12...	<.08	<.01	E.5n

Remark codes used in this table:

< -- Less than.  
E -- Estimated.

Value qualifier codes used in this table:  
n -- Below the LRL and above the LT-MDL